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मानक

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Mazdoor Kisan Shakti Sangathan

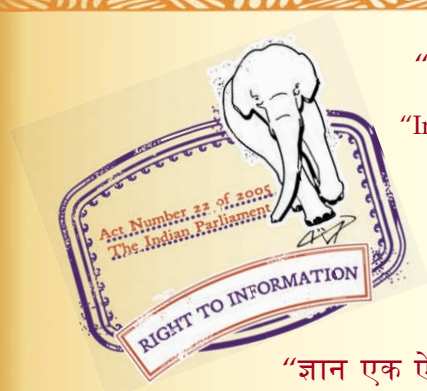
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“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

“Step Out From the Old to the New”

IS 4509 (1992): Ring Slugging Wrenches (Spanners) [PGD 5: Assembly Hand Tools]



“ज्ञान से एक नये भारत का निर्माण”

Satyanarayan Gangaram Pitroda

“Invent a New India Using Knowledge”



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

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भारतीय मानक

स्लग करने वाले छल्ला रिंच (पाने) – विशिष्ट

(पहला पुनरीक्षण)

Indian Standard

**RING SLUGGING WRENCHES (SPANNERS) –
SPECIFICATION**

(First Revision)

UDC 621.883.14

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**BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002**

May 1992

Price Group 1

FOREWORD

This Indian Standard (First Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Assembly Hand Tools Sectional Committee had been approved by the Production Engineering Division Council.

These spanners which are also commonly known as 'Ring slugging wrenches' are used for tightening and loosening of bolts/nuts by impact load which is applied by hammering on the striking end of the spanner.

This standard was first issued in 1968, under the title Shortened single ended ring spanners.

This revision has been taken up in order to align the standard with the work done at the International level. While revising this standard following alterations have been made:

- a) Title of the specification has been changed since this product is commonly known as ring slugging wrenches;
- b) Hardness values have been modified;
- c) Type A has been deleted, since not being in use;
- d) Spanners of nominal sizes 27 to 34, 220 and 230 mm have been included. Dimensions have also been modified; and
- e) Torque requirement have been deleted since lower and upper ranges of the hardness specified takes care of it.

For open ended slugging wrenches (spanners), refer IS 4508 : 1992.

While revising this standard, considerable assistance has been taken from DIN 7444 : 1982 'Slugging wrenches, box' issued by the Deutsches Institut für Normung (DIN).

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (revised)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

AMENDMENT NO. 2 JANUARY 2003
TO
IS 4509 : 1992 RING SLUGGING WRENCHES
(SPANNERS) — SPECIFICATION
(First Revision)

[*Page 1, clause 4. (see also Amendment No. 1)*] — Substitute the following for the existing:

4 MATERIAL — Suitable alloyed or unalloyed steels meeting the requirements laid down in 5. Some of the suitable steels are T40Ni6Cr4Mo3 or T50Cr4V2 conforming to IS 3748:1990 and 35C4* or 40C8* conforming to IS 2004:1991.

(*Page 2, Table 1*):

- a) Delete 'a₂' in figure and delete column 'a₂' in table.
- b) Substitute 'a' for 'a₁' in figure and table.
- c) Substitute '305' for '395' under column *l Max* for nominal size 65.

*The words conforming to IS 2004:1991' have been deleted since this Indian Standard is not having these designations. The final amendment will be as given above the line.

(BP 05)

**AMENDMENT NO. 1 JUNE 1996
TO
IS 4509 : 1992 RING SLUGGING WRENCHES
(SPANNERS) — SPECIFICATION**

(First Revision)

(Page 1, clause 2) — Substitute the following for the existing:

'2 REFERENCES

The following Indian Standards contain provision which through reference in this text, constitute provision of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below:

<i>IS No.</i>	<i>Title</i>
2004 : 1991	Carbon steel forgings for general engineering purposes (<i>third revision</i>)
2027 : 1992	Spanners and sockets — Width across flats (<i>third revision</i>)
3748 : 1990	Tool and die steels (<i>second revision</i>)
4190 : 1984	Eye bolts with collars (<i>first revision</i>)
6131 : 1980	Technical requirements for hand-operated wrenches (spanners) and sockets (<i>first revision</i>).'

(Page 1, clause 4) — Substitute the following for the existing clause:

'4 MATERIAL

Suitable alloyed or unalloyed steels meeting the requirements laid down in 5. One of the suitable alloy steels is T50Cr4V23 conforming to IS 3748 : 1990 and carbon steels is 35C4 or 40C8 conforming to IS 2004 : 1991.'

(Page 1, clause 7.1) — Substitute the following for the existing clause:

'7.1 Spanners shall be given protective treatment against rust such as Mn-Phosphating or black oxidizing, etc. If no protective treatment is given, these may be covered with grease or mineral jelly for rust proofing.'

(PE 05)

Reprography Unit, BIS, New Delhi, India

Indian Standard

RING SLUGGING WRENCHES (SPANNERS) — SPECIFICATION

(First Revision)

1 SCOPE

Covers the requirements of ring slugging wrenches (spanners).

2 REFERENCES

Following Indian Standards are necessary adjuncts to this standard:

<i>IS No.</i>	<i>Title</i>
2004 : 1978	Carbon steel forgings for general engineering purposes (<i>second revision</i>)
2027 : 1980	Width across flats for spanners and sockets (<i>second revision</i>)
3749 : 1978	Tool and die steels for cold work (<i>first revision</i>)
4190 : 1967	Eye-bolts with collars (<i>first revision</i>)
6131 : 1980	Technical requirements for hand-operated wrenches (spanners) and sockets (<i>first revision</i>)

3 DIMENSIONS

3.1 The dimensions of spanners shall be as given in Table 1.

3.2 The tolerances on width across flats for the spanners shall be in accordance with IS 2027 : 1980 as specified for forged and subsequently machined spanners.

4 MATERIAL

Suitable alloyed or unalloyed steels meeting the requirements laid down in 5. One of the suitable alloy steels for torque series A Wrenches is T50Cr4V23 conforming to IS 3749 : 1978 and carbon steels for torque series D Wrenches are 35C4 or 40C8 as specified in IS 2004 : 1978.

5 HARDNESS

For Nominal sizes up to and including 46	34 to 40 <i>HRc</i> (\approx 340 to 390 <i>HV</i>)
For Nominal sizes 50 and above	30 to 36 <i>HRc</i> (\approx 300 to 350 <i>HV</i>)

6 MANUFACTURE, WORKMANSHIP AND FINISH

6.1 The spanners of nominal size 130 mm and above shall be provided with tapped holes at suitable place to receive eye bolts conforming to IS 4190 : 1967. The spanners of nominal size 130 to 180 mm shall be provided with tapped holes of M 24 size whereas spanners of nominal sizes 185 to 210 mm shall have tapped holes of M30 size.

6.2 The spanners shall be well forged to shape and finished smooth all over. All sharp corners shall be removed. The spanners shall be free from burrs, cracks, seams or other manufacturing defects.

7 PRESERVATION AND PACKING

7.1 Spanners shall be given protective treatment against rust such as plating, oxidizing, phosphating, etc. If no protective treatment is given, these may be covered with grease or mineral jelly for rust-proofing.

7.2 Each spanner or a number of spanners shall be wrapped in non-absorbent paper and packed suitably as agreed to between the supplier and the purchaser.

8 SAMPLING

8.1 Sampling shall be same as given in IS 6131 : 1980.

9 DESIGNATION

9.1 The spanners shall be designated by its commonly used name, nominal size and number of this standard.

Example

A ring slugging wrench (spanner) of nominal size 100 mm, shall be designated as:

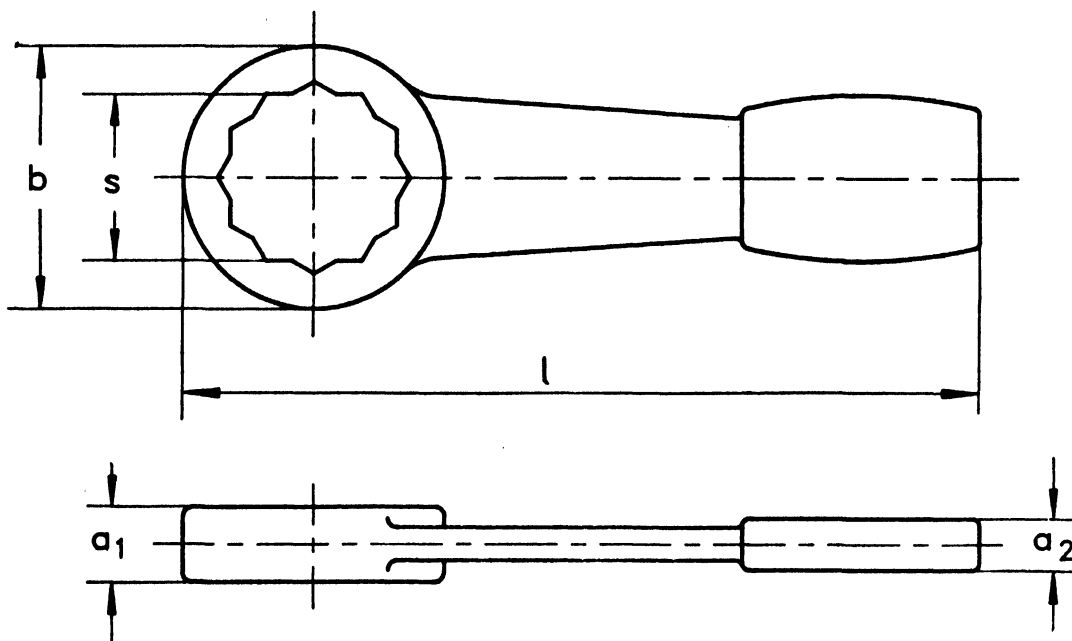
Slugging Spanner Ring — 100 — IS 4509

10 MARKING

Each spanner shall be legibly and indelibly marked with the nominal size and the manufacturer's name, initials or recognized trade-mark.

Table 1 Dimensions for Slugging Wrenches (Spanners) Box
(Clause 3.1)

All dimensions in millimetres.



Nominal size <i>s</i>	<i>a</i> ₁		<i>b</i>	<i>l</i>		<i>a</i> ₂
	Max	Min	Max	Max	Min	
27	17	15	47	185	175	11.5
30	18	16	54	200	185	11.5
32	18	16	54	200	185	11.5
34	18	16	57	205	190	15
36	20	18	60	210	195	17
41	22	19.5	66	235	215	17
46	24	21.5	75	245	225	17
50	25	22.5	80	260	240	17
55	26	23	88	275	255	19
60	28	25	94	285	265	19
65	30	27	104	395	285	21
70	35	31.5	110	335	315	21
75	35	31.5	115	335	315	23
80	38	34	126	365	340	23
85	38	34	130	365	340	25
90	42	37.5	152	400	375	27
95	42	37.5	152	400	375	27
100	46	41	155	430	405	27
105	48	43	172	435	410	32
110	50	45	172	460	435	32
115	50	45	172	460	435	32
120	56	50	194	500	475	35
130	60	54	205	530	505	37
135	64	57.5	205	535	510	37
145	65	58.5	230	590	565	40
150	65	58.5	230	590	565	40
155	65	58.5	230	590	565	40
165	70	63	270	660	635	45
170	70	63	270	660	635	45
180	70	63	270	660	635	50
185	75	67.5	295	710	680	50
190	75	67.5	295	710	680	50
200	75	67.5	295	710	680	50
210	80	72	325	760	725	55
220	80	72	325	760	725	55
230	80	72	325	760	725	55

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Bureau of Indian Standard

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